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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,748	11/30/2000	Prathap Haridoss	10964-043001/ Case 629	4182

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EXAMINER

CANTELMO, GREGG

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/727,748

Applicant(s)

HARIDOSS ET AL.

Examiner

Gregg Cantelmo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 21, 22 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 21-22 and 25-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the amendment received September 9, 2005:
  - a. Claims 1-5, 21-22 and 25-32 are pending with claims 6-20 and 23-24 having been cancelled as per Applicant's request;
  - b. The prior art rejections stand.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 21-22 and 25-32 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent No. 4,017,663 (Breault), of record.

Breault discloses a fuel cell electrode comprising a catalyst, a first material of tungsten oxide (same first material as identified in the instant claims and thus inherently resistant to oxidation up to about 3 volts vs. SHE) and a non-electrolytic material different than the catalyst (col. 2, line 66 through col. 3, line 5 and prior art claim 6). The catalyst is distributed on the graphite *and tungsten oxide* (see prior art claim 1). The catalyst load is 0.25 mg/cm<sup>3</sup> (col. 3, ll. 40-45). The weight of the mixed catalyst and tungsten oxide is 80% with the balance being the Teflon polymer (col. 3, ll. 1-5 as applied to claims 1 and 21). The non-electrolytic material in this example is 20 weight percent Teflon i.e., polytetrafluorethylene (col. 3, ll. 3 as applied to claims 7, 8 and 10).

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Alternatively the non-electrolytic material can be FEP-120 which is a copolymer of tetrafluoroethylene and hexafluoropropylene (col. 2, ll. 55-60 as applied to claims 1 and 21).

A first resistant material of tungsten oxide is also present in the electrode mixture. The noble metal catalyst is mixed with the tungsten oxide. Since the material is the same as those set forth in the species of the instant claims, the tungsten oxide in the prior art composition is expected to have the same properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). See col. 3, ll. 3 and col. 3, ll. 26-31 of Breault as applied to claims 1 and 21).

The catalysts are Pt and Ru which are capable of catalyzing oxidation of a fuel cell gas and capable of undergoing reversible oxide formation (col. 3, ll. 1-2 as applied to claims 2, 4, 5 and 22).

The fuel cell gas inherently comprises hydrogen (as applied to claim 3).

The catalyst total weight is 64% (col. 3, ll. 1-5 as applied to claims 25 and 29).

The first material is tungsten oxide (as applied to claims 26-28 and 30-32).

### ***Response to Arguments***

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3. Applicant's arguments filed September 9, 2005 have been fully considered but they are not persuasive. Applicant argues:

Applicant argues that the Breault electrode has an anode of two constituents, a carbon paper impregnated with a polymer-catalyst layer and not one or the other.

This argument is not persuasive for the following reasons:

First, it is evident from the instant application that the anode includes disposing the catalyst-polymer layer composition on a gas diffusion paper such as carbon paper (see page 9, lines 1-5 and 18-24). This is the same component as the carbon paper of Breault.

Second, the carbon paper of Breault is not a constituent of the composition but rather serves as a support upon which the disclosed catalyst-polymer composition is provided. Thus both the instant application and Breault readily teach the combination of a support and anode composition on the support. In addition, one of ordinary skill in the art would recognize that the carbon paper is not a component of the anode composition but only serves as a gas diffusion backing so that reactant can flow to the anode catalyst portion of the electrode. In so far as Breault discusses the composition alone, the composition is still held to anticipate the claimed composition.

Lastly, the claimed invention does not preclude the presence of a carbon paper and read in light of the specification can reasonably be expected to be a part of the overall anode (catalyst and gas diffusion media).

Thus it is the Examiner's position that Applicant's arguments fail to provide clear and convincing arguments that Breault does not anticipate the claimed invention.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday to Thursday from 9 a.m. to 6 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregg Cantelmo  
Primary Examiner  
Art Unit 1745

gc 

January 13, 2006